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TD.831 – TECHNICAL DATA: HYDROPHO-CS14™

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Product Class: Colloidal silica based penetrating densifier for green or existing concrete surfaces

Description: HYDROPHO™ CS14 is a 0 VOC, concentrated, silicate free, colloidal nano-silica densifier that creates new calcium silicate hydrates within the pore structure of concrete substantially improving: density, compressive strength, freeze thaw resistance and reduces dusting of new and existing concrete structures. Can be used on interior or exterior concrete surfaces.

Typical Uses:

- Polished concrete
- Harden concrete structures
- Flumes
- New (green) concrete
- Stucco/EIFS
- Brick mortar joints
- Drive-ways, Patios
- Pre-cast panels
- Bridge decks
- Concrete pipes
- Airport runways
- Reservoirs/dams
- Commercial/industrial floors

Key Features:

- Substantially increases density and hardness of concrete
- Fills pours and capillaries
- Increases abrasion/scratch resistance
- Greatly reduces dusting
- Improves freeze/thaw resistance
- Extends coverage rates of sealers and coatings
- Less susceptible to staining, water and oil ingress
- Minimizes dusting for healthier indoor air quality
- Reduces maintenance costs for cleaning
- Meets all VOC regulations including California
- Meets LEED qualifying standards
- Reduces shrinkage cracking in new green concrete.
- Does not darken concrete

ASTM Results:

• ASTM D2047 – Standard Coefficient of Friction:	0.61 (passes ADA recommendations)
• ASTM C779 – Standard Abrasion Resistance:	1.8 mg loss
• ASTM D3359 – Standard Adhesion:	>20% increase verses untreated
• ASTM C39 – Standard Compressive Strength:	>40% increase verses untreated
• ASTM C307 – Standard Tensile Strength	>23% increase verses untreated
• ASTM C805 – Standard Rebound:	>15% increase verses untreated

DILUTION RATE:

New Concrete:
4-8 parts clean potable water
1 part CS14 densifier

Existing Concrete:
2-4 parts clean potable water
1 part CS14 densifier

COVERAGE RATE: (Based on surface porosity)
New Concrete: 400-600 sq. ft. per diluted gallon
Existing Concrete: 150-400 sq. ft. per diluted gallon

Available Packaging:
5 gallon pail or 55 gallon drum

New concrete (green)
HYDROPHO™ CS14 may be applied to newly applied concrete after the final trowel pass, while concrete is still green. Concrete must be free from all contaminates including, ***curing compounds, form release oils and debris.*** Apply with a low pressure sprayer or pump sprayer to achieve a consistent, even application for optimal coverage on surface. Re-apply as necessary to keep the surface wet for the first 15 to 20 minutes, allow surface to dry. No rinsing, cleaning or neutralizing is necessary prior to polishing. Allow to cure before polishing.

Surface preparation for existing concrete:
Remove all loose or deteriorated concrete, laitance and contaminates such as grease, form oils, dirt, coatings, sealers etc. Use a minimum 3,000 psi pressure sprayer and clean potable water. Add detergents to remove oils or grease if necessary and rinse with more water. Allow surface to dry, and vacuum surface to ensure the pores are open to receive CS14. Once surface is clean, if the surface is still rough and not smooth enough, use a 50-100 grit sanding screens can be used, followed by re-cleaning the surface with a 3,000 psi power washer and re-vacuum surface before application.

Application
Use a low-pressure sprayer or pump sprayer. Spray an even sheen across surface to ensure complete saturation. Apply enough material to keep surface wet for 15-20 minutes to ensure complete penetration. Grind or polish the surface once the surface has completely dried. Diamond grinding or polishing to an 800 grit finish after application will result in a very durable stain resistant finish. If color stain is to be added a 200-400 grit finish is performed before color is applied and a second application is optional.

For vertical applications, always begin to apply at bottom and work way up.

On existing concrete if a coating is to be applied, allow at least 24 hours to cure before applying coatings. If concrete repair is required, allow 7 days of curing @ 74 F / 23 C or higher temperature.

Clean up with water. Protect metals glass, wood, paint, brick or decorative stone from contact. Wash over sprayed areas immediately with clean water.